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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/765,538

Filing Date: January 27, 2004

Appellant(s): IOSUE, MICHAEL JUDE

Thomas F. Marsteller, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 28, 2006 appealing from the Office action
mailed April 10, 2006. •

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,493,111	WHEELER	2-1996
5,338,927	DE GROOT	8-1994

(9) Grounds of Rejection

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,493,111 to Wheeler.

Regarding to claim 16, Wheeler discloses in Figures 1-4, a method of making an image intensifier tube (10), said method including the steps of: providing an annular tube body (12 and 50); providing a microchannel plate (20) disposed within said tube body (12 and 50); providing an electrical contact structure (90) between said tube body (12 and 50) and said microchannel plate (20); providing a yieldably deformable and axially-variable sealing structure (52') sealingly uniting the tube body (12 and 50) with a window member (16), said window member (16) carrying a photocathode (18) and yielding said axially-variable sealing structure (52') while maintaining a selected fine-dimension spacing between the photocathode and microchannel plate.

Regarding to claim 19, Wheeler discloses in Figures 1-4, the step of providing yieldably deformable electrical contact structure (90) between said tube body (12 and 50) and the said microchannel plate (20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,493,111 to Wheeler in view of U.S. Patent No. 5,338,927 to de Groot.

Regarding to claim 17, Wheeler discloses in Figures 1-4, a method of making an image intensifier tube (10), said method including the steps of: providing an annular tube body (12 and 50); providing a microchannel plate (20) disposed within said tube body (12 and 50); providing an electrical contact structure (90) between said tube body (12 and 50) and said microchannel plate (20); providing a yieldably deformable and axially-variable sealing structure (52') sealingly uniting the tube body (12 and 50) with a window member (16), said window member (16) carrying a photocathode (18) and yielding said axially-variable sealing structure (52') while maintaining a selected fine-dimension spacing between the photocathode and microchannel plate.

However, Wheeler does not disclose forming fine-dimension spacing structure extending axially between said photocathode and said microchannel plate. de Groot teaches in Figure 2, a fine-dimension spacing structure (25) extending axially between said photocathode (6) and said microchannel plate (7) (column 4, lines 51-57) for the

purpose of preventing any change in the distance between photocathode and the microchannel plate during the operating lifetime of the image tube.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the fine-dimension spacing structure of de Groot for the image intensifier tube of Wheeler in order to prevent changes in the distance between the photocathode and the microchannel and thus maintain a precise distance between the photocathode and the microchannel plate during the operating lifetime of the image intensifier tube.

Regarding to claim 18, Wheeler in view of de Groot discloses the claimed invention except for the fine-dimension spacing structure is formed integrally with the photocathode. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the fine-dimension spacing structure integral with the photocathode, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art.

(10) Response to Argument

In response to Applicant's argument that the Wheeler reference fails to teach or suggest deformation that is defined as being by applying stress or force, the Examiner respectfully disagrees. First and foremost, the Applicant fails to define deformation by applying stress or force neither in the specification nor in the claims, thus the Examiner interprets that the deformation can be accomplished by any method. The Examiner

interprets that the indium seal material 52' of the Wheeler reference is a yieldably deformable and axially-variable sealing structure. The solder material when brazed or heated, its in a liquid state and has the characteristics of deformable and axially-variable and when the window 16 is sealed into flange 52, the indium seal material is yielded. Thus, the Examiner interprets that the Wheeler reference teaches the claimed yieldably deformable and axially-variable sealing structure. Second, the brazing process as taught by the Wheeler reference requires the solder to be melted at a high melting temperature and when the indium sealing material 52' is in its liquid state, the window portion 16 is sealed into flange 52 in which a force is applied upon the window portion 16 to the flange 52 in order to provide a tight seal for the image intensifier tube. Thus, a force is applied to the indium sealing material 52' via the window portion 16 of the Wheeler reference and therefore a deformation of the melted sealing material 52' is achieved and satisfies the deformation definition provided by the Applicant.

The Applicant further discloses that the "contact pads 56' and deformable portion of seal structure 58 both employ a yieldable, sealing deformable and bondable seal material including indium metal. This seal material including indium metal will allow the deformable contact pad structures 56' and deformable seal structure 58 both to, yield, cold flow and sealingly cold weld when the components of I²T 14 are assembled" on page 13, lines 13-17. The Wheeler reference also teaches sealing the window 16 and the flange 52 with indium or similar seal material 52', see column 7, lines 65-67. The Wheeler reference and the Applicant both utilize the same sealing indium material for uniting the tube body with a window member, thus the Examiner interprets that the

indium sealing material of the Wheeler reference exhibits the characteristics of yieldably deformable and axially-variable as claimed by the Applicant.

Also, in response to Applicant's argument that the instant specification explains the term "yieldably deformable" as yieldable but shape retaining (emphasis added), the Examiner respectfully disagrees. The excerpt provided by the Applicant stating that "yieldably deformable" is yieldable but shape retaining relates only to contact pad structure 56' and which is utilized by the Applicant as a spacer in order to maintain the proper spacing between the microchannel plate and the photocathode and not as a sealing structure. However, in the independent claim 16, the Applicant claims a sealing structure which is yieldably deformable and axially-variable, contact pad 56' is not the claimed sealing structure as claimed by the Applicant and thus the definition describing contact pad 56' can not be applied to a sealing structure 58 of the Applicant's invention. Further, the Examiner searched through the specification and fails to find any yieldably deformable definition for the sealing structure 58, and further the Applicant only discloses that the sealing structure 58 yield to cold weld. For arguendo, the sealing structure 58 as claimed by the Applicant is yieldable but shape-retaining as defined by the Applicant, the Examiner asserts that the solder used in the brazing process of the Wheeler reference is shape-retaining as well. When no force is applied to the melted solder and the solder is still in the semi-solid and semi-liquid state, the solder itself can retain its shape.

Further, in response to Applicant's argument that the Examiner erroneously equates the flange member of the Wheeler reference is "brazed" onto the housing

member as being deformable, the Examiner respectfully disagrees. The Wheeler reference clearly teaches "the flange member 52 is brazed onto the housing member 50 at step portion 72" see column 7, line 67 to column 8, line 1. The Examiner interprets that the solder at the interface of flange member 52 and the housing member 50 are deformable and fits to the contours of the step portion 72.

Furthermore, in response to Applicant's argument that the prior art devices lack the functional characteristics of the claimed structure, the Examiner asserts that the functional language should be directed to an apparatus claim, instead the Applicant in the case at bar claims a method of making an image intensifier tube. Furthermore, the Examiner asserts that the functional language is neither claimed by the Applicant nor bears any weight in the patentability of the claimed invention. As the MPEP clearly states while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of the structure rather than function. See MPEP 2114.

Finally, in response to Applicant's argument that the de Groot reference fails to teach or suggest the beads 25 are formed integrally with the photocathode, the Examiner respectfully disagrees. The Examiner interprets that image intensifier tube of the de Groot reference comprises by a tube body 2 closed at one end by an input window 3 and at the other end by an output window 14. The beads 25 of the de Groot reference is being tightly held within the image intensifier tube in order to prevent the beads from moving within the intensifier tube. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the fine-dimension spacing

structure integral with the photocathode, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Wheeler reference and the de Groot reference both relates to an image intensifier tube and both reference addresses the spacing of the photocathode and the microchannel plate. Thus, the Examiner asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the fine-dimension spacing structure of de Groot for the image intensifier tube of Wheeler in order to prevent changes in the distance between the photocathode and the microchannel and thus maintain a precise distance between the photocathode and the microchannel plate during the operating lifetime of the image intensifier tube.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of

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ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Dalei Dong
October 24, 2006

Nimeshkumar D. Patel
Supervisory Patent Examiner
Art Unit 2879

Conferees:

Drew A. Dunn 

Nimeshkumar D. Patel 

Dalei Dong 